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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,107	09/12/2003	Harry Bims	1875.7300003	6489

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STERNE, KESSLER, GOLDSTEIN & FOX PLLC
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

AJAYI, JOEL

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	01/17/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary

Application No.

10/661,107

Applicant(s)

BIMS, HARRY

Examiner

Joel Ajayi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/10/2003
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Priority

Applicant's claim for the benefit of U.S. Patent No. 6,788,658, filed on 1/11/02 is acknowledged.

Information Disclosure Statement

The information disclosure statement submitted on 11/10/03 has been considered by the Examiner and made of record in the application file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 29 is rejected under 35 U.S.C. 102(e) as being anticipated by **Ho et al. (U.S. Patent Number: 6,717,924)**.

Consider **claim 29**; Ho clearly discloses a system comprising:

One or more communication devices coupled to a switch, the one or more communication devices communicating wirelessly with one or more mobile stations (column 3, lines 41-52; column 4, lines 29-45); wherein the one or more communication devices coordinate transmissions of data packets to function as an access point with respect to the one or more mobile stations (column 3, lines 41-52; column 4, lines 29-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 2, 4-8, 14-17, 19, 20, 21, 23-28, 30, 31, 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ho et al. (U.S. Patent Number: 6,717,924)** in view of **Wu (U.S. Patent Number: 6,836,469)**.

Consider **claim 1**; Ho clearly discloses a method comprising:

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One or more communication devices coordinating transmissions of data packets to function as an access point (base point) with respect to a first mobile station and a second station wirelessly coupled to the one or more communication devices (column 4, lines 29-45).

Except:

One or communication devices wirelessly transmitting a first packet and a second packet to the first mobile station and the second mobile station respectively at different times or at a time when the transmission overlap, at least partially, based on whether transmissions of the first and second packets would interfere with each other.

In the same field of endeavor Wu clearly discloses one or communication devices wirelessly transmitting a first packet and a second packet to the first mobile station and the second mobile station respectively at different times or at a time when the transmission overlap, at least partially, based on whether transmissions of the first and second packets would interfere with each other (column 1, lines 17-27).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Wu into the method of Ho in order to reduce communication interference and minimize access delay.

Consider **claim 15**; Ho clearly discloses a method comprising:

Receiving, at a switch, first data and second packets designated for delivering to a first mobile station and a second mobile station respectively (column 3, lines 41-52; column 4, lines 29-45).

Detecting whether overlapping transmission of the first and second packets will result in interference that would prevent completion of the transmissions (column 3, lines 41-52; column 4, lines 29-45; column 5, lines 21-29);

Transmitting the first and second packets to one or more communication devices coupled to the switch (column 3, lines 41-52; column 4, lines 29-45).

Except:

Scheduling transmission of the first and second packets to avoid the interference if overlapping transmission of the first and second packets will result in interference.

In the same field of endeavor Wu clearly discloses scheduling transmission of the first and second packets to avoid the interference if overlapping transmission of the first and second packets will result in interference (column 1, lines 17-27).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Wu into the method of Ho in order to reduce communication interference and minimize access delay.

Consider **claim 20**; Ho clearly discloses a method comprising:

Receiving, at a switch, a packet destined to a mobile station (column 3, lines 41-52; column 4, lines 29-45); and transmitting the packet to a communication device coupled to the switch (column 3, lines 41-52; column 4, lines 29-45); wherein the communication device and other communication devices coupled to the switch coordinate transmissions of data packets to function as an access point (base point) with respect to the mobile station (column 3, lines 41-52; column 4, lines 29-45).

Except:

Wherein the packet is forwarded wirelessly to the mobile station when no other communications destined to the mobile station is occurring.

In the same field of endeavor Wu clearly discloses that the packet is forwarded wirelessly to the mobile station when no other communications destined to the mobile station is occurring (column 1, lines 17-27).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Wu into the method of Ho in order to reduce communication interference and minimize access delay.

Consider **claim 33**; Ho clearly discloses an apparatus comprising:

Means for one or more communication devices coordinating transmissions of data packets to function as an access point with respect to a first mobile station and a second station wirelessly coupled to the one or more communication devices (column 3, lines 41-52; column 4, lines 29-45).

Except:

Means for the one or more communication devices wirelessly transmitting a first packet and a second packet to the first mobile station and the second mobile station respectively at different times or at a time when the transmissions overlap, at least partially, based on whether transmissions of the first and second packets would interfere with each other.

In the same field of endeavor Wu clearly discloses the means for the one or more communication devices wirelessly transmitting a first packet and a second packet to the first mobile station and the second mobile station respectively at different times or at a time when the

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transmissions overlap, at least partially, based on whether transmissions of the first and second packets would interfere with each other (column 1, lines 17-27).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Wu into the method of Ho in order to reduce communication interference and minimize access delay.

Consider **claim 34**; Ho clearly discloses a method comprising:

Means for receiving, at a switch, first data and second packets designated for delivering to a first mobile station and a second mobile station respectively (column 3, lines 41-52; column 4, lines 29-45).

Means for detecting whether overlapping transmission of the first and second packets will result in interference that would prevent completion of the transmissions (column 3, lines 41-52; column 4, lines 29-45; column 5, lines 21-29);

Means for transmitting the first and second packets to one or more communication devices coupled to the switch (column 3, lines 41-52; column 4, lines 29-45).

Except:

Means for scheduling transmission of the first and second packets to avoid the interference if overlapping transmission of the first and second packets will result in interference.

In the same field of endeavor Wu clearly discloses the means for scheduling transmission of the first and second packets to avoid the interference if overlapping transmission of the first and second packets will result in interference (column 1, lines 17-27).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Wu into the method of Ho in order to reduce communication interference and minimize access delay.

Consider **claim 35**; Ho clearly discloses a method comprising:

Means for receiving, at a switch, a packet destined to a mobile station (column 3, lines 41-52; column 4, lines 29-45); and means for transmitting the packet to a communication device coupled to the switch (column 3, lines 41-52; column 4, lines 29-45); wherein the communication device and other communication devices coupled to the switch coordinate transmissions of data packets to function as an access point (base point) with respect to the mobile station (column 3, lines 41-52; column 4, lines 29-45).

Except:

Wherein the packet is forwarded wirelessly to the mobile station when no other communications destined to the mobile station is occurring.

In the same field of endeavor Wu clearly discloses that the packet is forwarded wirelessly to the mobile station when no other communications destined to the mobile station is occurring (column 1, lines 17-27).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Wu into the method of Ho in order to reduce communication interference and minimize access delay.

Consider **claims 2, 17, 21, and 31**; the combination above clearly discloses one or more communication devices operating as a communication channel in accordance with a wireless communication protocol (Ho, column 3, lines 41-52).

Consider **claim 4**; the combination above clearly discloses a switch coupled to the one or more communication devices, and transmissions of the first packet and the second packet to avoid interference that would prevent one or both of the transmissions from being received by the first and the second mobile stations (Ho, column 3, lines 41-52; column 4, lines 29-45; column 5, lines 21-29).

Consider **claim 8**; the combination above clearly discloses determining whether the first and second packets are to be transmitted simultaneously to the first and second mobile stations (Ho, column 4, lines 29-45); and transmitting the first and second packets to the first and second mobile stations at different time slots to avoid the interference (Wu, column 1, lines 17-27), if the first and second packets are selected for simultaneous transmission (Ho, column 4, lines 29-45).

Consider **claims 14, 19, 27, and 28**; the combination above clearly discloses performing address translation on the first and second packets to determine respective Ethernet MAC addresses based on respective destination IP addresses of the first and second packets (Wu, column 1, lines 17-27; column 3, lines 43-56);

Identifying one or more communication devices closest to the first and second mobile stations having the respective Ethernet MAC address (Wu, column 1, lines 17-27; column 3, lines 43-56);

Determining whether interference will occur between the transmissions that would prevent completion of the transmissions (Wu, column 1, lines 17-27; column 3, lines 43-56); and

Scheduling the transmissions of the first and second packets to avoid the interference if interference would occur between the transmissions (Wu, column 1, lines 17-27; column 3, lines 43-56).

Consider **claim 16, 23-25, 30**; the combination above clearly discloses that if overlapping transmissions of the first and second packets will not result in interference that would prevent completion of the transmissions, the method further comprises transmitting wirelessly from the one or more communication devices the first and second packets to the first and second mobile stations respectively without delay (Ho, column 3, lines 41-52; column 4, lines 29-45; column 5, lines 21-29).

Consider **claims 5-7, 26**; the combination above clearly discloses detecting whether concurrent transmission of the first and second packets will cause interference prior to performing the scheduling; and transmitting the first and second packets to the first and second mobile stations without performing the scheduling, if overlapping transmissions of the first and second packets will not cause interference (Wu, column 1, lines 17-27; column 3, lines 43-56).

Claims 3, 18, 22, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ho et al. (U.S. Patent Number: 6,717,924)** in view of **Wu (U.S. Patent Number: 6,836,469)**, and further in view of **Raith et al. (U.S. Patent Number: 5,818,829)**.

Consider **claims 3, 18, 22, and 32**; Ho and Wu clearly disclose the claimed invention except that one or more communication devices and the first and second mobile stations accommodate packet transmissions at a substantially identical communication frequency.

In the same field of endeavor Raith clearly discloses that one or more communication devices and the first and second mobile stations accommodate packet transmissions at a substantially identical communication frequency (column 2, lines 23-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Raith into the method of Ho and Wu in order to provide a method for increasing throughput capacity of a mobile station transmitting a plurality of consecutive bursts to a base station in a communication system.

Claims 9, 10, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ho et al. (U.S. Patent Number: 6,717,924)** in view of **Wu (U.S. Patent Number: 6,836,469)**, and further in view of **Kamel et al. (U.S. Patent Number: 6,285,886)**.

Consider **claims 9, 10, 12, and 13**; Ho and Wu clearly disclose the claimed invention except maintaining in a first database information regarding whether communications of the one or more communication devices interfere with each other.

In the same field of endeavor Kamel clearly discloses maintaining in a first database information regarding whether communications of the one or more communication devices interfere with each other (column 4, lines 4-12, 44-49).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Kamel into the method of Ho and Wu in order to transmit control data between a base station and a mobile station on a single communications channel to minimize or reduce overhead traffic from the control data.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ho et al. (U.S. Patent Number: 6,717,924)** in view of **Wu (U.S. Patent Number: 6,836,469)**, and further in view of **Lundby (U.S. Patent Application Number: 2003/0112778)**.

Consider **claims 11**; Ho and Wu clearly disclose the claimed invention except periodically transmitting a test packet to collect interference information.

In the same field of endeavor Lundby clearly discloses periodically transmitting a test packet to collect interference information (paragraph 32, lines 1-9).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Lundby into the method of Ho and Wu in order to provide a method and apparatus for efficient broadcasting in wireless packet data systems.

Conclusion

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joel Ajayi whose telephone number is (571) 270-1091. The Examiner can normally be reached on Monday-Friday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Joel Ajayi

January 06, 2007

Nick Corsaro
NICK CORSARO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600